

YAKHONTOVA, L.K.; OSTROVSKAYA, I.V.; BUKINA, A.N.

Solubility of smaltite in sulfuric acid. Trudy Min. nauz. no.8:122-
127 '57. (MIRA 11:3)
(Smaltite)

YAKHONTOVA, L.K.; SERGEYEVA, N.Ye.

Cobalt content of calcite. Trudy Min. muz. no 8:167-169 '57.
(Cobalt) (Calcite) (MIRA 11:3)

AUTHOR:

Yakhontova, L. K.

7-1-7/12

TITLE:

Experimental Investigation of the Oxidation of Cobalt and Nickel Arsenides by Solutions Containing Oxygen and Carbon Dioxide

(Eksperimental'noye izuchenie okisleniya arsenidov kobalta i nikelya v rastvorakh, soderzhashchikh kislorod i uglekislotu)

PERIODICAL: Geokhimiya, 1958, Nr 1, pp. 70-80 (USSR).

ABSTRACT:

The oxidation of smalting, safflorite, rammelsbergite, and niccolite at the percolation of two different solutions was measured. One solution contained only CO_2 (pH 3,7), the other CO_2 and oxygen (pH 4,5). The experiment lasted for 120 days. Every tenth day As, Co, Ni, Fe were determined in the filtrate. The results are given in a table and also illustrated graphically. Moreover the oxidation products were investigated. The ratio of the washing out of the elements or of their transition into oxidation products is shown graphically for each of the minerals. There is a special list of the ratios of the cations which pass over from rammelsbergite, smalting, safflorite into the arsenates.

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Results: 1. Arsenic is easily washed out. The arrangement of the investigated minerals according to their increasing loss is as follows: safflorite, niccolite, rammelsbergite, smaltine. There was almost no effect of the change of pH from 3,7 to 4,5 with niccolite and rammelsbergite, whilst it was very strong with safflorite and smaltine.

2. In proportion to As the cations are inert, especially Fe and Co. The mobility of Ni is greater but it decreased at pH 4,5.

3. With rammelsbergite the quantity of washed-out arsenide was almost the same as the quantity of the oxides formed. With smaltine and niccolite considerably more was washed out.

4. In the secondary products the cations are concentrated in proportion to arsenic. The deficiency of arsenic is balanced by CH^- , O^{--} , CO_3^{--} . With both pH values safflorite and smaltine are the most favorable for the concentration of Fe, smaltine for that of Co, and rammelsbergite and smaltine for that of Ni.

5. Among the secondary products there were arsenates of Co, Ni, Fe, chiefly of the erythrite-annabergite series, but also arsenolite, which is especially produced from smaltine by a solution

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Experimental Investigation of the Oxidation of Cobalt
and Nickel Arsenides by Solutions Containing Oxygen and
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containing oxygen and carbon dioxide (pH 4,5). From smaltine and rammelsbergite arise arsenates, the Ni-Co ratio of which decreases with increasing acidity. From rammelsbergite annabergite is formed, that is: Ni is concentrated. Contrary to that from smaltine erythrite is formed, thus Co is concentrated.

6. In spite of the small iron contents in smaltine the oxidation products are comparatively rich in iron. Thus symplesite and "Smolyanovite" can be produced in the oxidation of smaltine.

7. In the oxidation of niccolite, nickel is strongly concentrated in the products as arsenic is much more mobile. Thus besides annabergite also oxides and perhaps even hydroxides of nickel are formed. There are 4 figures, 2 tables, and 2 references, 2 of which are Slavic.

ASSOCIATION: Chair of Mineralogy at the Moscow State University imeni M. V. Lomonosova
(Kafedra mineralogii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova)

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Experimental Investigation of the Oxidation of Cobalt
and Nickel Arsenides by Solutions Containing Oxygen and
Carbon Dioxide

7-1-7/12

SUBMITTED: September 21, 1957.

AVAILABLE: Library of Congress.

1. Minerals-Oxidation

Card 4/4

YAKHONTOVA, L.K.

Initial products in the oxidation of safflorite. Vest. Mosk. un.
Ser. biol., pochv., geol., geog. 13 no.2:147-156 '58. (MIRA 11:9)

1. Moskovskiy gos. universitet, Kafedra mineralogii.
(Safflorite)

YAKHONTOVA, L.K.; BUKINA, A.N.; RAUDONIS, P.A.

Solubility of some cobalt and nickel arsenides in a sulfuric acid medium. Zap. Vses. min. ob-va 87 no.1:23-30 '58. (MIRA 11:6)

1. Moskovskiy universitet, Kafedra mineralogii.
(Arsenides) (Sulfuric acid)

YAKHONTSOVA, L.K.

Heterogenite from the Khovakhsa deposit. Vest.Mosk.un.Ser.biol.;
pochv., geol., geog. 14 no.4:109-116 '59. (MIRA 13:6)

1. Kafedra mineralogii Moskovskogo universiteta.
(Tuva Autonomous Province--Heterogenite)

YAKHONTOVA, L.K.

Behavior of cobalt in the oxidation zone of the Dashkesan iron ore deposit. Trudy Min. muz. no.11:123-138 '61. (MIRA 16:7)

(Dashkesan region—Cobalt)

YAKHONTOVA, L.K.

Composition and properties of minerals of the erythrite-
annabergite series. Trudy Min. muz. no.11:139-156 '61.
(MIRA 16:7)
(Annabergite) (Erythrite)

YAKHONTOVA, L.K.

Participation of trivalent arsenic compounds in the oxidation
zone of iron-cobalt-nickel arsenides. Trudy Min. muz. no.15:
176-183 '64. (MIRA 17:11)

YAKHONTOVА, L.K.; SIDORNIKO, G.A.

Supergenic synthesis of cobalt-bearing calcium carbonate. Zap. Vses. min. ob-va 94 no.2:208-212 '65. (MIRA 18:5)

YAKHONTOVА, L.K.; KHARCHENKO, L.Yu.

Allophanoid from the oxidation zone of the Abakan iron-ore deposit.
Trudy Min.muz. no.16:295-301 '65.

(MIRA 18:8)

YAKHONTOVA, L.K.

Picite from the oxidation zone of the Abakan iron ore deposit.
Vest. Mosk. un. Ser. 4: Geol. 20 no.4:70-74 Jl-Ag '65.

(MIRA 18:9)

1. Kafedra mineralogii Moskovskogo universiteta.

YAKHONTOVА, L.K.; GENUЯV, A.V.; PONOMAREV, A.S.

Effect of pyrite on the oxidation nature of smelting. (Exp.
Vniss. min. str.-va 94 no. 6:703-708 '65.)

(N.P.L. 10.5.2)

YAKHONTOVA, N. K.

YAKHONTOVA, N. K. - "Vitamin C in Typhys." Sub 9 Jun 52, First Moscow Order
of Lenin Medical Inst. (Dissertation for the Degree of Candidate in
Medical Sciences).

SO: Vechernaya Moskva January-December 1952

BULKINA, I.G.; BUNIN, K.V., prof.; KUZNETSOV, V.S.; MIKHAYLOVA, Yu.M.;
NOVAKOVSKAYA, A.A.; POKROVSKIY, V.I.; POLYMOREDVINOVA, Ye.D.; SEDLOVETS,
M.P.; STARSHIKOVA, V.S.; TSEYDLER, S.A.; SHKHVATSABAYA, T.V.; YAKHON-
TOVA, N.K.; SHERESHEVSKAYA, Ye.F., red.; ZUYEVA, N.K., tekhn. red.

[Pocket manual for the specialist in infectious diseases; clinical
aspects, diagnosis, and treatment] Karmannyi spravochnik infektsionisti-
sta; klinika, diagnostika, lechenie. Moskva, Gos. izd-vo med. lit-ry
(MIRA 14:7)
Medgiz, 1961. 233 p.
(COMMUNICABLE DISEASES) (MEDICINE--HANDBOOKS, MANUALS, ETC.)

BULKINA, I.G.; BUNIN, K.V., prof.; KUZNETSOV, V.S.; MIKHAYLOVA,
Yu.M.; NOVAKOVSKAYA, A.A.; POKROVSKIY, V.I.; FOLUMORDVINOVA,
Ye.D.; SEDLOVETS, M.P.; STARSHINOVA, V.S.; TSEYDLER, S.A.;
SHKHVATSABAYA, T.V.; YAKHONTOVA, N.K.; KARON, I.I., red.

[Concise manual for infectious disease specialists; clinical
aspects, diagnosis, treatment] Kratkiy spravochnik vracha-
infektsionista; klinika, diagnostika, lechenie. Izd.2., dop.
i ispr. Leningrad, Meditsina, 1965. 287 p. (MIRA 18:3)

1. Kafedra infektsionnykh bolezney 1-go Moskovskogo meditsin-
skogo instituta im. I.M.Sechenova (for all except Karon).

SAMOJLAVA-KALINOV RUV. A. S.

Tablitsy zlipticheskikh integralov, M.-P., ONTI (1935), 1-107

SO: Mathematics in the USSR, 1917-1947

edited by Kurosh, A. G.,

Markushevich, A. I.,

Rashevskiy, P. K.

Moscow-Leningrad, 1948

SANDYLOV-YAKHONTOVA, N. S.

Po povodu zametki L. G. Afendika «otsenka pogreshnosti pri chislennom integrirovani shtermera». Prikl. matem. i mekh., 2 (1939), 143.

SO: Mathematics in the USSR, 1917-1947

edited by Kurosh, A. G.,

Markushevich, A. I.,

Rashevskiy, P. K.

Moscow-Leningrad, 1948

SAMOILOVA-YAKHONTOVA, N. S.

Perturbation

Some corrections of Bohlin's tables for the calculation of absolute perturbations of small planets. Biul. Inst. teor. astron. 4 No. 2, 1947.

9. Monthly List of Russian Accessions, Library of Congress, August 1952 1953, Uncl.

SUBBOTIN, M.F.; YAKHONTOVA, N.S., prof., ovt. red.; PEVZNER, R.S.,
tekhn. red.

[Ephemerides of minor planets for 1949] Efemeridy malykh planet
na 1949 god. Izd-vo Akad. nauk SSSR, 1948. 122 p.
(MIRA 15:2)

1. Akademiya nauk SSSR. Institut teoreticheskoy astronomii.
2. Direktor Instituta Teoreticheskoy Astronomii chlen-
korrespondent Akademii nauk SSSR (for Subbotin).
(Planets, Minor—Ephemerides)

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CIA-RDP86-00513R001961820015-8"

SAMOYLOVA-YAKHONTOVA, N.S.

Samoilova-Yahontova, N. S., and Makover, S. G. Computation of special perturbations of minor planets on punched-card machines. Akad. Nauk SSSR. Byull. Inst. Teoret. Astr. 5, 125-183 (1952). (Russian)

SC: MATHEMATICAL REVIEW (unclassified)
Vol XIV, No 4, April 1953, pp 341-438

1. YAKHONTVA, N.
 2. USSR (600)
 4. Planets, Minor
 7. Ephemerides for physical observations of the minor planets in 1952. Astron. tsir. No. 125, 1952.
9. Monthly List of Russian Accessions, Library of Congress. May 1953. Unclassified.

SUBBOTIN, M.F.; YAKHONTOVA, N.S., otv.red.

[Ephemerides of minor planets for 1954] Efemeridy malykh planet na 1954 god. Moskva, Izd-vo Akad.nauk SSSR. Vol.8. (MIRA 15:2) 1953. 175 p.

1. Akademija nauk SSSR. Institut teoreticheskoy astronomii.
2. Direktor Instituta teoreticheskoy astronomii, chlen-korrespondent AN SSSR (for Subbotin).
(Planets, Minor--Ephemerides)

SAMOYLOVA-YAKHONTOVA, N.S.

Review of works on minor planets for 1947-1952. Biul. Inst. teor.
astron. 5 no.9:561-570 '54. (MIRA 8:4)
(Planets, Minor)

SAMOYLOVA-YAKHONTOVA, N.S.

Review of studies on minor planets published in 1953. *Biul. Inst.
teor. astron.* 6 no.1:1-7 '55. (MIRA 13:3)
(Planets, Minor)

SAMOYLOVA-YAKHONTOVA, N.S.

Minor planets (1954). Biul. Inst. teor. astron. 6 no.3:157-161
'55. (MIRA 13:3)
(Planets, Minor)

YAKHONTOVA, N.S., professor

Minor planets. Nauka i zhizn' 22 no.7:17-20 Jl '55. (MIRA 8:9)
(Planets, Minor)

YAKHONTOVA, N.S., otvetstvennyy redaktor; TVERITINOVA, K.S., tekhnicheskyy
~~redaktor~~

[The ephemerides of minor planets for 1957] Efemeridy malykh planet
na 1957 god. Moskva. Vol. 11. 1956. 170 p. (MLRA 9:10)

1. Akademiya nauk SSSR. Institut teoreticheskoy astronomii.
(Planets, Minor)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001961820015-8

SAMOYLOVA-YAKHONTOVA, N.S.

Minor planets, 1955. Biul.Inst.teor.astron. 6 no.7:
429-433 '57. (MIRA 13:3)
(Planets, Minor)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001961820015-8"

SUBBOTIN, M.F.; YAKHONTOVA, N.S., otv. red.

[Ephemerides of minor planets for 1959] Efemeridy malykh planet
na 1959 god. Moskva. Vol. 13. 1958. 169 p. (MIRA 11:12)

1. Akademiya nauk SSSR, Institut teoreticheskoy astronomii.
2. Direktor Instituta teoreticheskoy astronomii AM SSSR, chlen-korrespondent AM SSSR (for Subbotin).
(Planets, Minor)

YAKHONTOV, N. S.

KULAGIN, S.G.; KOVBASYUK, L.D.; DAGAYEV, M.M.; ROZENBLYUM, N.D.; YEGORCHENKO, I.P. (Irkutsk); KAVERIN, A.A. (Irkutsk); KONSTANTINOVA, T.G. (Irkutsk); KUKLINA, V.I. (Irkutsk); KUKLIN, G.V. (Irkutsk); SAZONOVA, Z.G., (Irkutsk); CHEHNYKH, L.I. (Irkutsk); CHEHNYKH, N.S. (Irkutsk); DEMIDOBICH, Ye.G.; BRONSHTEIN, V.A.; YAKHONTOV, N.S. (Leningrad); PEROVA, N.B.; DOKUCHAYEVA, O.D.; KATASEV, L.A.; KLYAKOTKO, M.A.; PARENAGO, P.P.; SHCHEREBINA-SAMOILOVA, I.S.; MASEVICH, A.G.; RYABOV, Yu.A.; SHCHEGLOV, V.P.; PEREL', Yu.G.; MARTYNOV, D.Ya.; FEDINSKIY, V.V.; VORONTSOV-VEL'YAMINOV, B.A.; ZIGEL', F.Yu.; BAKULIN, P.I., otv.red.; RAKHLIN, I.Ye., red.; AKHILAMOV, S.N., tekhn.red.

[Astronomical calendar] Astronomicheskii kalendar'. [A yearbook; variable section for 1959] Ezhegodnik. Peremennais chast', 1959. Red. kollegija P.I. Bakulin i dr. Moskva, Gos. issd-vo fiziko-matem. lit-ry, 1958. 370 p. (Vsesoiuznoe astronomico-geodesicheskoe obshchestvo, no.62) (MIRA 12:2)

1. Gosudarstvennye astronomico-geodesicheskoye obshchestvo (for Kulagin, Kovbasyuk, Demidevich). 2. Moskovskoye otdeleniye Vsesoyuznogo astronomico-geodesicheskogo obshchestva (for Dagayev, Rozenblyum, Bronshtein, Pereva).

(Astronomy--Yearbooks)

YAKHONTTOVA, N. S.

3(1)

PHASE I BOOK EXPLOITATION SOV/1380

Istoriko-astronomicheskiye issledovaniya, vyp. 4 (Studies in the History of Astronomy, Nr. 4) Moscow, Fizmatgiz, 1958.
592 p. 1,500 copies printed.

Resp. Ed.: Kulikovskiy, P.G., Docent; Eds.: Rakhlin, I. Ye., and Reznikovskiy, P.T.; Tech. Ed.: Gavrilov, S.S.; Editorial Board of Series: Vorontsov-Vel'yaminov, B.A., Professor Kukarkin, B.V., Professor, Kulikovskiy, P.G. (Chairman, Committee on the History of Astronomy, Astronomical Council USSR Academy of Sciences) and Perel', Yu. G. (Scientific Secretary, Committee on the History of Astronomy, Astronomical Council, USSR Academy of Sciences)

PURPOSE: This book is intended for both the general reader and the specialist interested in the historical development of astronomy.

COVERAGE: This collection of articles by different authors is the fourth in a series on the history of the development of astronomy in Russia. The present volume is divided into three parts: an

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Studies in the History of Astronomy

SOV/1380

introductory section, a section of articles and studies, and a final section containing data and documents. The first article, the longest and most thorough, traces the development of stellar astronomy in Russia during the XIX century. The remainder discusses various topics in the field of astronomy, such as the contributions of outstanding personalities, both in and outside of Russia, Russian observatories, the development of astronomy in China and Georgia, etc. Valuable historical findings are brought to light in the form of new archival discoveries. The text is accompanied by photographs, diagrams and bibliographic references.

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During the 19th Century 13

ARTICLES AND RESEARCH PAPERS

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4-9-59

Card 5/5

YAKHONTOVA, N.S.

Naum Il'ich Idel'son. Ist.-astron.issl. no.4:387-405 '58.
(MIRA 11:10)

(Idel'son, Naum Il'ich, 1885-1951)

SAMOYLOVA-YAKHONTSOVA, N.S.

Minor planets, 1956. Biul. Inst. teor. astron. 6 no.10:
681-686 '58. (MIRA 13:3)

(Planets, Minor)

3(1)

AUTHOR: Samoylova-Yakhontova, N.S. SOV/33-35-5-16/20

TITLE: Remarks on the Computation of Special Perturbations of Elements
(Zamechaniya po povodu vychisleniya chastnykh vozmushcheniy v
elementakh)

PERIODICAL: Astronomicheskiy zhurnal, 1958, Vol35, Nr 5, pp 801-804 (USSR)

ABSTRACT: A publication of V.A.Yegorov [Ref 1] caused the author to
state:
1) the results of Yegorov partly are already published by
Tisserand [Ref 4].
2) the formulas of Yegorov are not always correct.
The author establishes two systems of equations, where the true
anomaly v and the true longitude w are independent variables.
There are 4 references, 2 of which are Soviet, 1 French, and
1 English.

ASSOCIATION: Institut teoreticheskoy astronomii Akademii nauk SSSR (Institute
of Theoretic Astronomy of the AS USSR)

SUBMITTED: June 6, 1958

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YAKHONTOVA, N.S., otyv.red.; TVERITINOVA, K.S., tekhn.red.

[Ephemerides of minor planets for 1958] Efemeridy malykh planet na 1958 god. Moskva. Vol.12. 1957. 174 p. Vol.14. 1959. 168 p. (MIRA 12:11)

1. Akademiya nauk SSSR. Institut teoriticheskoy astronomii.
(Planets, Minor--Tables)

SOV/26-59-4-2/45

29(1,2)
AUTHOR:Yakhontova, N.S., Professor

TITLE:

The Cosmic Rocket - The First Small Artificial Planet
(Kosmicheskaya raketa - pervaya iskusstvennaya planeta)

PERIODICAL:

Priroda, 1959, Nr 4, pp 5-8 (USSR)

ABSTRACT:

On January 2, 1959, the first Soviet cosmic rocket was launched. After passing close to the moon the rocket went into orbit around the sun and thus became the first artificial planet. In this connection, the author describes a number of minor planets discovered in the past. Today, 1627 asteroids are known; according to V. Baade and V.G. Fesenkov there are about 30,000 - 40,000 asteroids which may be observed with modern telescopes. Most of the minor planets revolve around the sun in orbits which lie between those of Mars and Jupiter; however, discoveries of the past few decades show that some of them exceed these limits. In connection with

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SOV/26-59-4-2/43

The Cosmic Rocket - The First Small Artificial Planet

Soviet cosmic rocket those minor planets whose orbits lie near to the sun and the earth are of special interest. The author mentions e.g., Eros (having a 12 km diameter and being the brightest), Amur and Ikar developing the highest speed in revolving around the sun. Since 4 revolutions of the rocket take about the same time as 5 revolutions of the earth, both will approach each other every 5 years. Comparative figures on planets near to the sun and the cosmic rocket are given in table 1. Figure 2 gives a schematic description of the orbits, earth's plus those of Mars, Ikar, Eros, Geografos and the rocket. Modern technical equipment, e.g. analytical computers and electronic devices enable the results of theoretical studies and direct observation to be tested. For instance, the author mentions the ephemerides compiled by the Institut teoreticheskoy astronomii

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SOV/26-59-4-2/43

The Cosmic Rocket - The First Small Artificial Planet

(Institute of Theoretical Astronomy) on minor planets
in 1958. There are 2 diagrams and 1 table.

ASSOCIATION: Institut teoreticheskoy astronomii Akademii nauk SSSR
(Institute of Theoretical Astronomy of the AS USSR)
Leningrad

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SOV/35-59-9-6936

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 9, p 10 (USSR)

AUTHOR: Samoylova-Yakhontova, N.S.

TITLE: Minor Planets (1957)

PERIODICAL: Byul. In-ta teor. astron. AS USSR, 1959, Vol 7, Nr 3, pp 177 - 185
(Engl. résumé)

ABSTRACT: A survey of studies on minor planets for 1957. The Institute of Theoretic Astronomy has published a next symposium entitled "The Ephemerides of Minor Planets for 1958". Up to 80% of the ephemerides are calculated with perturbations having been taken into account. A series of Soviet and foreign establishments took part in the calculations, apart from the I.T.A. One hundred and eighty newly improved systems of the elements have been inserted into the symposium, including ~ 100 systems calculated at the I.T.A. Four planets have received new permanent numbers (1623 - 1626). An interesting fast-moving planet has been discovered by Shubart in Sonneberg. Kippes, Mitrinovich, and Patri have made many identifications of planets. Observations continued of 10 minor planets chosen for determining the constants of the catalogue of weak stars. Orel'skaya and Naur have completed two

Card 1/2

Minor Planets (1957)

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studies on determining the corrections in the catalogues. Kovalevskiy worked at developing Laplace modification method for determining orbits. Popovich developed a new method of calculating partial perturbations. Ryabov continued with the studies on the theory of motion of the Trojans. The photometric survey of all the asteroids at the MacDonald observatory has been completed.

S.G. Makover

Card 2/2

S/035/60/000/010/0C4/021
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 10,
pp. 9-10, # 9819

AUTHOR: Samoylova-Yakhontova, N. S.

TITLE: Minor Planets. (1958) ✓

PERIODICAL: Byul. In-ta teor. astron. AN SSSR, 1959, Vol. 7, No. 6, pp. 397-406
(English summary)

TEXT: This is a continuation of the series of this author's articles dealing with the review of publications on minor planets. The main results of the ephemeris and observational studies of minor planets for 1958 are presented, as well as a brief review of the literature for the same period. In 1958, the Institut teoreticheskoy astronomii (Institute of Theoretical Astronomy) published the "Ephemeris of Minor Planets for 1959". The Planetary Center at Cincinnati published 151 planetary circulars. Elliptic elements were determined for seven recently discovered minor planets, but only one of these planets, 1957 NA (Shubart's object) obtained a constant number, 1627. The elements of 61 minor

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A001/A001

Minor Planets (1958)

planets were improved. The studies of Kippes, O., Mitrinovič, R. and Patry, A. on the identification of minor planets were continued. The identity of the two pairs of numbered minor planets was proved: 525 - 1171 and 864 - 1078. Observations of selected ten minor planets were continued for the Catalogue of weak stars. The results of theoretical works on studying the motion of minor planets are briefly reported.

S. G. Makover

Translator's note: This is the full translation of the original Russian abstract.

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3(1)

SOV/26-59-10-19/51

AUTHOR: Yakhontova, N.S., Professor

TITLE: The Determination of the Ephemerides of Planetoids

PERIODICAL: Priroda, 1959, Nr 10, pp 87-89 (USSR)

ABSTRACT: This article deals with the determination of ephemerides, i.e. almanacs showing the day-to-day position or other numerical particulars of the planets for a certain time. In 1946, the Institut teoreticheskoy astronomii AN SSSR (Institute of Theoretical Astronomy of the AS USSR) took over the compiling and publishing of the ephemerides of asteroids, i.e. planetoids. In 1948, a laboratory for computing the ephemerides of asteroids was established at the above institute. It has been equipped with calculating punches. Since 1954, the integrating of approximately 700 asteroids is done by the electronic BESM computer in Moscow and it will be continued until 1970. The author also mentions another Soviet electronic computer, the "Strela" ✓

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SOV/26-59-10-19/51

The Determination of the Ephemerides of Planetoids

type, which solves various mathematical problems. It also needs international cooperation both in computation and observation. In this connection, the two centers at Leningrad and Cincinnati are mentioned. There is 1 Soviet reference.

ASSOCIATION: Institut teoreticheskoy astronomii/Leningrad
(Institute of Theoretical Astronomy/Leningrad)

Card 2/2

SUBBOTIN, M.F.; YAKHONTOVA, N.S., oty.red.

[Ephemerides of minor planets for 1961] Efemeridy malykh planet
na 1961 god. Moskva. Vol.15. 1960. 170 p.

(MIRA 13:12)

1. Akademija nauk SSSR, Institut teoreticheskoy astronomii.
2. Direktor Instituta teoreticheskoy astronomii, chlen-korrespondent AN SSSR (for Subbotin).

(Planets, Minor) (Ephemerides)

SAMOYLOVA-YAKHONTOVA, N.S.

Minor planets (1959). Biul. Inst. teor. astron. 7 no. 9: 677-636 '60.
(MIRA 14:3)

(Planets, Minor)

L 19344-63

EWT(1)/FCC(w)/BDS/ES(v) AFFTC/ESD-3 Pe-4 CW

ACCESSION NR: AR3002030

S/0269/63/000/005/0002/0002

SOURCE: RZh. Astronomiya. Otdel'nyy vypusk. Abs. 5.51.14

63

AUTHOR: Yakhontova, N. S.; Drozdov, S. V.TITLE: Ivan Ivanovich PutilinCITED SOURCE: Publikatsii Kievskoy astronomicheskoy observatorii, no. 9, 1961,
78-81

TOPIC TAGS: minor planet, Putilin

TRANSLATION: A brief outline of the life and work of I. I. Putilin (1893-1954). The authors supply basic biographical information (from 1927 the subject was a scientist at the Astronomical-Geodetic Institute of /the/ Moscow State University; during 1934-1946, senior scientific worker at Kiev University Observatory; from 1934 until his death, Docent at Kiev University). An evaluation of the value of Putilin's work in celestial mechanics is made; he contributed mainly to the study of a number of minor planets. Putilin was the author of a monograph, Minor Planets, the only one of its kind in the world literature. Putilin's work as

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organizer and first chairman of the Kiev Division of the All-Union Astronomical and Geodetic Society is described. A portrait of the scientist is included.
S. Seleshnikov

DATE ACQ: 30May63

SUB CODE: AI

ENCL: 00

Card 2/2

YAKHONTOVA, N.S., otv. red.

[Ephemerides of minor planets for 1962] Efemeridy malykh planet na 1962 god. Moskva, Izd-vo Akad. nauk SSSR. Vol.16. 1961. 173 p.

(MIRA 15:3)

1. Akademiya nauk SSSR. Institut teoreticheskoy astronomii.
(Planets, Minor—Ephemerides)

KULAGIN, S.G.; KOVBASYUK, L.D.; DAGAYEV, M.M.; LAZAREVSKIY, V.S.;
DEMIDOVICH, Ye.G.; BRONSHTEIN, V.A.; YAKHONTOVA, N.S.(Leningrad);
KUROCHKIN, N.Ye.; DOKUCHAYEVA, O.D.; SHCHERBINA-SAMOILOVA, I.S.;
MASEVICH, A.G.; LIPSKIY, Yu.N.; MARTYNOV, D.Ya.; ARSENT'YEV, V.V.;
MOROZ, V.I.; MASEVICH, A.G.; PEREL', Yu.G.; BAKULIN, P.I., otv.
red.; KULIKOV, G.S., red.; AKHLLAMOV, S.N., tekhn. red.

[Astronomical calendar; yearbook. Variable part, 1962] Astrono-
micheskii kalendar'; ezhegodnik. Peremennaia chast', 1962. Red.
kollegiia: P.I.Bakulin i dr. Moskva, Gos.izd-vo fiziko-matem.
lit-ry, 1961. 259 p. (Vsesoiuznoe astronomo-geodezicheskoe ob-
shchestvo, no.65) (MIRA 14:12)

1. Gosudarstvennoye astronomo-geodezicheskoye obshchestvo (for
Kalugin, Kovbasyuk, Lazarevskiy, Demidovich). 2. Moskovskoye ot-
deleniye Vsesoyuznogo astronomo-geodezicheskogo obshchestva (for
Dagayev, Bronshten, Kurochkin).

(Astronomy—Yearbooks)

YAKHONTOVА, N.S., otv. red.

[Ephemerides of minor planets for 1962] Efemeridy malykh planet na 1963 god. Moskva, Izd-vo Akad. nauk SSSR. Vol.17. 1962, 157 p. (MIRA 15:9)

1. Akademiya nauk SSSR. Institut teoreticheskoy astronomii.
(Planets, Minor) (Ephemerides)

SAMOYLOVA-YAKHONTOVА,

SAMOYLOVA-YAKHONTOVA, N.S.

Minor planets (1960). Biul. Inst. teor. astron. 8 no.5:317-
323 '62. (MIRA 16:8)

S/511/62/008/006/002/005
A001/A101

AUTHOR: Samoylova-Yakhontova, N. S.

TITLE: The motion of a variable-mass body under the action of a central force

SOURCE: Akademiya nauk SSSR. Institut teoreticheskoy astronomii.. Byulleten', v. 8, no. 6(99), 1962, 396 - 401

TEXT: The author considers the problem of motion of a variable-mass body being in a field of a central force. She derives the formulae for perturbations of the osculating elements of the body moving according to Newton's law, assuming the mass increment to be equal to $\sigma\varphi(t)$ where σ is a small quantity and $\varphi(t)$ is a monotone differentiable function of time t . If the sum of masses of two bodies is assumed to be 1, and Gauss constant $k = 1$, the equation of motion looks as follows:

$$\ddot{\mathbf{r}} - (1 + \sigma\varphi(t)) \frac{\dot{\mathbf{r}}}{r} = 0. \quad (1)$$

The author derives three basic integrals for the problem in question: 1) Integral

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S/511/62/008/006/002/005

A001/A101

The motion of a variable-mass body under...

of areas is expressed in the following way:

$$\underline{r} \times \underline{v} = \text{const}, \quad (3)$$

where const = $c_0 = \sqrt{p_0 R_0}$ (p_0 is parameter at instant $t = t_0$, and R_0 is unit vector of the perpendicular to the plane of motion at the same instant. 2) Integral corresponding to energy integral:

$$v^2 - \frac{2(1 + \sigma\varphi(t))}{r} + 2\int \varphi'(t) \frac{1}{r} dt = \text{const}. \quad (4)$$

where const = $-\frac{1}{a_0}$. 3) Integral corresponding to Laplace's integral:

$$\underline{v} \times \underline{c} - \frac{r}{r} (1 + \sigma\varphi(t)) + \sigma \int \varphi'(t) \frac{r}{r} dt = \text{const}, \quad (5)$$

where const = $e p_0$. Expressions for these three integrals are rigorous and hold for any shape of function $\varphi(t)$. The values of osculating elements are derived for the massvalue $1 + \sigma\varphi(t)$. Their perturbations, δ_i , $\delta\Omega$, etc., are differences

Card 2/4

S/511/62/008/006/002/005

A001/A101

The motion of a variable-mass body under...

between the osculating elements and constant unperturbed elements determined at instant $t = t_0 = 0$. Then the expressions for perturbations of the six elements look as follows: 1) $\delta\Omega = 0$, 2) $\delta i = 0$, 3)

$$\frac{\delta a}{a} = -c\varphi(t) - 2ac \int_0^t \varphi'(t) \frac{1}{r} dt. \quad (7)$$

$$4) \quad \delta e = -e_0 c \varphi(t) - c \int_0^t \varphi'(t) \xi \frac{dt}{r}, \quad (9)$$

$$5) \quad e_0 \delta\omega = -c \int_0^t \varphi'(t) \eta \frac{dt}{r}, \quad (10)$$

6) Perturbations of mean anomaly $\delta M = \delta M_0 + \int \delta n dt$, where δM_0 is taken from Formula (13)

$$\delta M_0 = \frac{r \sin E}{a \sin v} \delta v - \left(1 + \frac{r}{p}\right) \sin E \delta e. \quad (13)$$

and δn is determined from Formula (11)

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The motion of a variable-mass body under...

S/511/62/008/006/002/005

A001/A101

$$\frac{v_n}{v_0} = -\varphi(t) + 3a \int_0^t \varphi(t) \frac{dt}{r}. \quad (11)$$

The formulae derived contain Strömgren's formulae (A.N., v. 163, 3897, 1903) as a particular case. They are reduced to the latter if it is assumed, as Strömgren did, that $\sigma\varphi(t) = \sigma t$ and $\varphi' = 1$. ✓

SUBMITTED: June 24, 1961

Card 4/4

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001961820015-8

SAMOYLOVA-YAKHONTOVA, N.S.

Minor planets (1961). Biul. Inst. teor. astron. 9 no.4:219-223 '63.
(MIRA 17:3)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001961820015-8"

SUBBOTIN, M.F.; YAKHONTOVA, N.S., otv. red.

[Ephemerides of minor planets for 1964] Efemeridy malykh planet na 1964 god. 18 god. izd. Moskva, Izd-vo AN SSSR, 1963. 152 p. (MIRA 16:11)

1. Akademiya nauk SSSR. Institut teoreticheskoy astronomii.
2. Direktor Instituta teoreticheskoy astronomii chlen-korrespondent AN SSSR (for Subbotin)
(Planets, Minor—Ephemerides)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001961820015-8

YAKHONTOVA, N.S.

Boris Vasil'evich Numerov; on the occasion of the 75th anniversary
of his birth. Biul.Inst.teor.astron. 9 no.3:213-215 '63.
(MIRA 16:10)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001961820015-8"

YAKHONTOVA, N.S.

Mikhail Fedorovich Subbotin, 1893-; on his 70th birthday. Biul.
Inst. teor. astron. 10 no.1:2-5 '65. (MIRA 18:12)

KOSYREVA, Z.S., kand. tekhn. nauk; VOROB'YEV, I.A., inzh.; MAKAROV, L.A.,
inzh.; YAKHONTOV, N.Ye., inzh.

Monolithic polystyrene plastic foams in construction. Stroj. mat. 11
(MIRA 18:9)
no.5:30-31. My '65.

BARBARINA, T.M.; BUBYR', N.F.; BUTT, L.M.; VEL'SOVSKIY, V.N.;
GORLOV, Yu.P.; GRIBANOVSKIY, V.G.; DROZDOV, I.Ya.;
YEREMIN, I.A.; ZEZIN, V.G.; KEVESH, P.D.; KOCHAROV, E.P.;
KOSIREVA, Z.S.; LEVIN, S.N.; MAKHNOVICH, A.T.; MERZLYAK,
A.N.; RODOV, E.S.; ROZHNOV, A.I.; SEREBRYANSKAYA, B.I.;
SUZHAREV, M.F.; USTENKO, A.A.; KHOMENKO, Z.S.; SHMIDT,
L.M.; ETIN, A.O.; YAKHONTOVA, N.Ye.; KITAYTSEV, Vladimir
Andreyevich, prof., doktor tekhn. nauk, red.; SKRAMTAYEV,
B.G., glav. red.; TROKHIMOVSKAYA, I.P., zam. glav. red.;
KRAVCHENKO, I.V., red.; KITAYGORODSKIY, I.I., red.;
KRZHEMINSKIY, S.A., red.; ROKHVARGER, Ye.L., red.; BALAT'YEV, P.K.
red.

[Manual on the manufacture of heat insulating and acous-
tical materials] Spravochnik po proizvodstvu teploizo-
liatsionnykh i akusticheskikh materialov. Moskva, Stroi-
izdat, 1964. 524 p. (MIRA 18:1)

KAUFMAN, Boris Naumovich [deceased]; SHMIDT, Leonid Moiseyevich;
KOSIREVA, Zinoviya Semenovna; YAKHONTOVA, Nina Yevgen'yevna
[Structural expanded plastics] Stroitel'nye poroplasty. Mo-
skva, Stroiizdat, 1965. 173 p. (MIRA 18:6)

YAKHONTOVA, O.A.

KURITSYNA, D.A., kandidat meditsinskikh nauk; VAYL', L.V.; MARTYNKINA, V.M.;
LIBOV, A.L., direktor; YAKHONTOVA, O.A., glavnnyy vrach; DANILEVICH, M.G.,
professor, nauchnyy rukovoditel'.

Significance of certain hematological data for the pidiomology clinical
aspects of scarlet fever. Vop.pediat. 21 no.3:21-24 My-Je '53.
(MLRA 6:7)

1. Gosudarstvennyy nauchno-issledovatel'skiy pediatricskiy institut (for
Libov). 2. 2-ya Detskaya bol'nitsa Oktyabr'skogo rayona (for Danilevich
and Yakhontova).

YAKHONTÖVA, O. I.

YAKHONTÖVA, O. I. (Kiyev)

Osarsol therapy for quinacrine-resistant lambliogenic
cholecystoangiocholitis. Vrach.delo supplement '57:17 (MIRA 11:3)
(ACETARSONE) (LAMBLIASIS)

YAKHONTOVA, O.I.

Effect of reserpine on the basal metabolism in hypertension.
Trudy LSGNI 48:184-191 '59. (MIRA 14:2)
(RESERPINE) (BASAL METABOLISM)
(HYPERTENSION)

YAKHONTOVА, O.I.

Comparative evaluation of blood oxygen measurement with the
OKO-1 oxyhemometer and by the Van Slyke method. Trudy LSGNI
48:475-480 '59. (MIRA 14:2)
(BLOOD—OXYGEN CONTENT)

YaKhONTOVA, O. I. Cand Med Sci — (diss) "Certain Questions on the Disturbance of On-tous Metabolism During Toxcooses During the First and Second Halves of Pregnancy," Leningrad, 1960, 16 pp, 330 copies.

(Leningrad Pediatrics Medical Institute) (KL, 47/60, 107)

YAKHONTOVA, T. P.

"X-Ray Study of the Distortion Mechanism of a Crystalline Atomic Lattice During Change of Sign Deformation." Cand Phys-Math Sci, Leningrad State Pedagogical Inst, Leningrad, 1954. (RZhFiz, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

S/058/60/000/006/014/040
A005/A001

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 6, pp. 187-188, # 14239

AUTHOR:

Yakhontova, T.P.

TITLE: The Effect of Cyclic Strain on the Microstructure of Certain Non-Ferrous Metals

PERIODICAL: V sb.: Materialy 8-y Nauchn. konferentsii professorsko-prepcdabat. sostava, Fiz.-matem. fak. (Kirg. un-t). Frunze, 1959, pp. 79-80

TEXT: The radiographic investigation of Cu- and Ni-specimens was performed, which were subjected to cyclic strain. Simultaneously, the microhardness of the specimens was investigated. It is stated that the width of the interference lines does not vary with the strain in preliminarily annealed Cu-specimens, whereas it decreases in preliminarily cold hardened specimens. The character of variation of the line intensity depends on both the previous state of the specimens and the symmetry or asymmetry of the loading cycle. The microhardness of Cu does not vary under strain conditions. A variation of the radiographic picture of Ni-

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S/058/60/000/006/014/040
A005/A001

The Effect of Cyclic Strain on the Microstructure of Certain Non-Ferrous Metals
specimens was not detected in spite of the marked change of the microhardness.

ASSOCIATION: Kirgizsk. un-t, Frunze (Kirghiz University, Frunze)

M.Ye. Gurevich

Translator's note: This is the full translation of the original Russian abstract.

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L 45575-65

A structural change takes place in grains located on the surface of the sample if it consists of grain crushing and disorientation of individual units with relation one to another. The degree of disorientation increases with an increase in the amplitude of deformation and a reduction in the distance between the point under study and the area of greatest deformation. Crushing of individual units and their disorientation is an irreversible process and is not removed by annealing. V. Ivanova

SUB CODE: MM

ENCL: 00

ANV

Card 2/2

YAKHONTSOVA, V. I.
SYROVATKO, F. A. Prof., YAKHONTSOVA, V. I.

Electroencephalography

Electroencephalographic modifications in mothers during painless labor, induced by medicinal
and psychoprophylactic methods. Akush. i gin. No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

YAKHONTOV, V.Y.

OSHKROVICH, A.L.; RODIONOV, S.F.; YAKHONTOVA, V.Ye.

Absolute brightness of some areas in the Milky Way. Dokl.AN SSSR 111
no.2:316-318 N '56. (MIRA 10:1)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova,
Predstavлено akademikom A.A. Lebedevym.
(Milky Way)

YAKHONTTOVA, V. Ye.

51-4-3-20/30

AUTHORS: Frish, S.E. and Yakhontova, V.Ye.

TITLE: New Data on Excitation Functions of Helium Lines.
(Novyye dannyye o funktsiyakh vozvuzhdeniya liniy
geliya.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3,
pp.402-404 (USSR)

ABSTRACT: The authors measured optical functions of excitation
(by electrons) for 13 lines of HeI by means of the
apparatus described in Ref.3. The latter apparatus
was altered by introduction of automatic recording of
excitation curves. Fig.1 gives the optical excitation
functions $F(V)$ for three singlet lines of HeI:
5047 (curve 1), 5016 (curve 2) and 4922 Å (curve 3).
Fig.2 gives the excitation functions for three triplet
lines of HeI: 4713 (curve 1), 3889 (curve 2),
4471 Å (curve 3). The abscissae in Figs.1 and 2 give
the logarithms of the energy of exciting electrons.
More detailed results are given in the table on p.404
in which the excitation potentials and position of
maxima on the excitation curves are given in volts.
The excitation functions obtained do not allow us to
make definite conclusions about separate energy levels

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51-4 -3-20/30

New Data on Excitation Functions of Helium Lines.

of helium, in the same was as it was done for mercury. However, one may make a number of probable conclusions. Thus, for example, the 5016 Å line has an upper

3^1P level; cascade transitions to this level are possible from n^1S and n^1D levels. The contribution of the cascade transitions to the optical excitation function for the 5016 Å line is given by curve 2 in Fig.3. Curve 1 in Fig.3 gives the experimental values of the optical excitation function for the 5016 Å line. The difference between curves 1 and 2 represents the excitation function for a single 3^1P level of helium (curve 3). Fig.4 gives the experimental excitation function for the 2^3P-4^3S line (4713 Å) as curve 1. Cascade transitions from n^3P levels should occur to the upper 4^3S level of the 4713 Å line. A probable contribution of these cascade transitions is given as curve 2 in Fig.4. Then the excitation function of the 4^3S level of helium is given by curve 3 in Fig. 4. Two maxima in the excitation functions of the 5047, 4438, 4922, 4388 and 4143 lines are not due to the

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51-4-3-20/30

New Data on Excitation Functions of Helium Lines.

cascade transitions but are inherent in the excitation functions of the n^1S and the n^1D levels. V.I. Ochkur found, by a theoretical calculation, two maxima in the excitation functions of S and D levels in hydrogen, in contrast to the excitation function of the P level of hydrogen which has only one maximum. There are 4 figures, 1 table, 3 references of which 2 are Soviet and 1 Western (composite reference consisting of 2 English and 2 German papers).

ASSOCIATION: Physics Research Institute, Leningrad State University.
(Nauchno-issledovatel'skiy fizicheskiy institut
Leningradskogo gosudarstvennogo universiteta.)

SUBMITTED: June 27, 1957.

1. Helium lines--Excitation 2. Optic functions--Measurement
3. Electrons--Excitation--Mathematical analysis

Card 3/3

21(7)

SOV/54-59-2-5/24

AUTHOR:

Yakhontova, V. Ye.

TITLE:

The Role of Cascade Transitions in the Excited Lines of Helium
(Rol' kaskadnykh perekhodov v vozvuzhdenii liniy gelyia)

PERIODICAL:

Vestnik Leningradskogo universiteta. Seriya fiziki i khimii,
1959, Nr 2, pp 27-42 (USSR)

ABSTRACT:

A short introduction puts forward the mathematical connections for the number of transitions ΔN_{jk} from a level j to any lower level k , the excitation section of a level j Q_j and of the line jk with the excitation section of the lines Q_{jk} , further the excitation function of the levels f_j and of the line f_{jk} of v (v = velocity of the exciting electrons). The energy radiated, and with it the intensity proportional to it with respect to the current intensity, reproduce the way of the excitation function of these lines of the electron velocity v . This function can be directly determined from measurements by means of the optical method. When the cross section of the excitation of the line is known, the function of the level exci-

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SOV/54-59-2-5/24

The Role of Cascade Transitions in the Excited Lines of Helium

tation of a level j can be computed. By transforming the mentioned connections, an expression for the function f_j to be

$$\text{computed is found: } f_{jk} = \frac{\sum_{i=0}^{j-1} Q_{ji} \max f_{ji}}{\sum_{i=0}^{j-1} Q_{ji} \max} + \sum_{i=j+1}^{\infty} \frac{Q_{1j} \max f_{1j}}{\sum_{i=0}^{j-1} Q_{ji} \max} \quad (9)$$

The uniformity of the velocity of the exciting electrons is of great importance for a good value of the function of the line excitation. In this paper, the helium was excited with an electron beam from a discharge tube, the exact description of which is put forward (Representation in the total plant, Fig 1). The regulation of the electron velocity (of the mono-kinetics of the electron beam) of the current density (i.e. of the radiation intensity) was carried out by means of the potential V_1 of the anode A_1 of the discharge tube. V_1 was varied in the interval of 35 to 200 v in the experiments. The optic scheme consisted of the discharge tube (ray source), the

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SOV/54-59-2-5/24

The Role of Cascade Transitions in the Excited Lines of Helium

condensing lens, and the monochromator. The recording was carried out on an antimony-cesium photomultiplier of the FEU-17 type. The cross section of the helium lines was measured, the measuring process being divided into 2 stages: 1) Determination of the function of line excitation, 2) measurement of the maximum cross sections $Q_{jk \max}$. The individual measuring operations are described in detail. The intensity curves recorded by a self-recorder are shown in the figures 2 a,b,v. Tungsten tubes with known spectral energy distribution were used for determining the maximum cross section. For control measurements of the uniform electron energy, the dependence of the line intensity on the current intensity and on pressure was investigated. In the proper investigation of the paper, the excitation function $f_{jk}(v)$ and the maximum cross section $Q_{jk \max}$ of 13 helium lines were measured. The results of measurement are compiled in a table, the excitation functions of individual lines are represented in the figures 4-9. Figure 10 contains the level scheme of helium computed accord-

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SOV/54-59-2-5/24

The Role of Cascade Transitions in the Excited Lines of Helium

ing to formula (9) from the results of measurement. The representation of the dependence of the cross section on the excitation energy of the electrons for five lines is given in figure 11. One principal and one secondary maximum were observed in the curves. According to conclusions drawn, the secondary maximum is attributed to the cascade transitions. It is concluded that the cascade transitions play an important part in the shaping of the excitation functions $f_{jk}(v)$ of the lines. The intensity fraction from the cascade transitions sometimes amounts to more than 20% of the intensity of the excited lines (see, for instance, the line $\lambda = 5016 \text{ \AA}$). Finally, the author thanks Professor S. E. Frish, Corresponding Member of the AS USSR, for raising the subject and for the interest and help rendered in the execution of the work. There are 13 figures, 1 table, and 18 references, 6 of which are Soviet.

SUBMITTED: June 23, 1958

Card 4/4

SOV/51-7-4-2/32

AUTHORS: Yakhontova, V.Ye. and Kliot-Dashinskiy, M.I.

TITLE: On the Dependence of the Intensity of Certain Lines of Helium on Pressure

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 4, pp 446-453 (USSR)

ABSTRACT: The authors consider a cylindrical tube filled with helium at a certain pressure p . A narrow parallel beam of electrons of known velocity is assumed to pass along the tube axis. If the direct excitation of helium atoms by electron collisions is the only source responsible for emission by a given line, and the absorption of this line by helium inside the tube is negligible, then the intensity of this line will be proportional to pressure. Such proportionality was observed experimentally for some helium lines (Ref 2). Other helium lines, however, which also are not absorbed by helium in the tube (for example the 5016 and 3965 Å lines) depend on gas pressure in non-linear fashion. The authors show that in general the intensity of emission and the gas pressure are indeed related non-linearly. This is due to self-absorption effects in the discharge. Figs 2 (5016 Å line) and 3 (3965 Å) show that the

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On the Dependence of the Intensity of Certain Lines of Helium on Pressure

theoretical relationships obtained here are in satisfactory quantitative agreement with experiment. There are 3 figures and 4 references, 2 of which are Soviet, 1 English and 1 translation from English into Russian.

SUBMITTED: February 26, 1959

Card 2/2.

YAKHONTOVA, V. Ye., Cand Phys-Math Sci -- (diss) "Experimental investigation of the effective cross-sections of helium atoms excited by the impact of electrons." Leningrad, 1960. 11 pp; (Leningrad Order of Lenin State Univ im A. A. Zhdanov); 225 copies; price not given; (KL, 17-60, 140)

82830
S/048/60/024/008/007/017
B012/B067

2.4.68/00

AUTHOR:

Yakhontova, V. Ye.

TITLE:

Experimental Determination of the $2^1S - n^1P$ -Series Due to Electron Impact

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 8, pp. 960-963

TEXT: The excitation cross sections of lines in collisions between atoms and electrons may be determined by employing the optical method (Ref. 1). It is shown that the determination of the excitation cross sections in the way how the intensity of the $2^1S - n^1P$ series changes with pressure is not convenient. The intensity is written down. It contains an additional factor which takes into account the "transformation" of resonance radiation in the radiation of $2^1S - n^1P$. In the present paper the cross sections for two helium lines

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Experimental Determination of the Excitation
Cross Section of Helium Lines of the
 $2^1S - n^1P$ -Series Due to Electron Impact

82830
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are determined: $\lambda = 5016 \text{ \AA}$ ($2^1S - 3^1P$) and $\lambda = 3965 \text{ \AA}$ ($2^1S - 4^1P$). The measurements were made with the device described in the paper (Ref. 2) at high gas pressure (0.1 torr). The excitation cross sections of the lines were calculated from formula (2). The results are shown in Figs. 1 and 2. They show that beginning with 0.1 torr the experimental curves show a section which is parallel to the pressure axis. Hence, in this section the intensity is proportional to pressure and thus the conditions under which formula (2) is deduced are observed. Special investigations were made to study other possible reasons of the occurrence of the section in parallel with the pressure axis. The way how the collisions of second type, the step-by-step excitations, and reabsorption of radiation influence the intensity of the lines investigated at 0.1 torr was studied. It was observed that these processes practically do not influence the intensity of the lines $\lambda = 5016 \text{ \AA}$ and that they reduce the intensity of the lines $\lambda = 3965 \text{ \AA}$ by about 5%. To find out whether at 0.1 torr $1^1S - n^1P$ -radiation is completely absorbed the pressure dependence of the intensity for lines

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Experimental Determination of the Excitation
Cross Section of Helium Lines of the
 $2^1S - n^1P$ -Series Due to Electron Impact

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of the $2^1S - n^1P$ series was calculated by a theoretical approximation calculation (Ref. 3). Here, formula (3) was obtained for the line intensities. Figs. 1 and 2 show the curves drawn on the basis of this formula for $\lambda = 5016 \text{ \AA}$ and $\lambda = 3965 \text{ \AA}$. These Figs. show that even when the theoretical curves are somewhat higher than the experimental ones they have the same character. In conclusion it is said that the mentioned formula (2) was deduced under correct assumptions. The values of the excitation cross sections obtained in the measurements are given. There are 2 figures and 4 references: 3 Soviet and 1 British.

Card 3/3

KONONENKO, A.M.; PETROV, V.A.; YAKHONTOVA, V.Ye.

Dose distribution along the axis of a flat beta-applicator.
Radiobiologija 1 no.3:452-460 '61; (MIRA 14:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut meditsinskoy
radiologii, Leningrad.
(BETA RAYS—MEASUREMENT)

YAKHONTOVA, V. YE

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PHASE I BOOK EXPLOITATION

SOV/6333

Bochkarev, V. V., ed.

Tekhnika izmereniye radioaktivnykh preparatov; sbornik statey (Techniques for the Measurement of Radioactive Preparations; Collection of Articles) Moscow, Gosatomizdat, 1962. 4600 copies printed.

Eds.: A. M. Smirnova and M. A. Smirnov; Tech. Ed.: S. M. Popova.

PURPOSE: This book is intended for specialists in nuclear instrumentation.

COVERAGE: The book is a collection of articles on recent developments in 1) measurement of the activity and 2) analysis of the composition of emissions of radioactive preparations. The methodology and apparatus used in these studies are described in detail. References are given at the end of each article.

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